

303 R.625"

Work Order ID 93658

November-22-12 1:34:09 PM

\*93658\*

Page 1

Item ID: D3873-1

Accept

\*N900040100\*

Setup

\*NS1\*

Revision ID:

Item Name: Bushing

Start

\*NS2\*

Start Date: 21/11/2012 Start Qty: 400.00

\*400\*

Cust Item ID:

Required Date: 20/12/2012 Req'd Qty: 400.00

\*400\*

Customer:

Reference:

Approvals: Process Plan: MLS

Date: 12-11-22 Tooling:

Date:

Run

\*NR1\*

QC:

Date: SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
|----------|--------------|

|       |   |
|-------|---|
| D3873 | C |
|-------|---|

|     |      |
|-----|------|
| 100 | 0.00 |
|-----|------|

\*100\*

Hardinge

Hardinge CNC Lathe Small

Memo 0.00  
1-TURN AS PER FOLIO FA806 & DWG D3873,  
FOLIO REV: AA  
DWG REV: C

110

QC2- Inspect parts off machine FAI/FAIB

0.00

\*110\*

QC

Quality Control

Memo 0.00

BC/JL 13-02-11

414

0

BC/JL 13-02-11

414

0

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order:    |                          |      |      | DISPOSITION   |  | AGAINST DEPARTMENT/PROCESS   |  |   |             |              |              |
|----------------|--------------------------|------|------|---|--|--|--|---|-------------|--------------|--------------|
|                |                          |      |      | Rework<br><input type="checkbox"/><br>Scrap<br><input type="checkbox"/><br>Use-as-is<br><input type="checkbox"/><br>Work Order Update<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/><br>Machining<br><input type="checkbox"/><br>Thermoforming<br><input type="checkbox"/><br>Large Fab<br><input type="checkbox"/> | Crosstube<br><input type="checkbox"/><br>Small Fab<br><input type="checkbox"/><br>Finishing<br><input type="checkbox"/><br>Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/><br>Prod. Eng. Coor.<br><input type="checkbox"/><br>Rec/Store/Packaging<br><input type="checkbox"/><br>Supplier<br><input type="checkbox"/> | Engineering<br><input type="checkbox"/><br>Quality<br><input type="checkbox"/><br>Other<br><input type="checkbox"/> |             |              |              |
| Root Cause     |                          | Date | Step | Qty   | Description of work order update or Non-conformance  |  | Initial Chief Eng  | Action Description  | Sign & Date | Verification | QC Inspector |
| Doc/Data       | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Equip/Tooling  | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Operator       | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Material       | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Setup          | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Other          | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Process        | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Supplier       | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Training       | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| Unapproved     | <input type="checkbox"/> |      |      |   |  |  |  |   |             |              |              |
| FAULT CATEGORY |                          |      |      |   |  |  |  |   |             |              |              |
| Landing Gear   |                          |      |      | General   |  |  |  |   |             |              |              |
|                |                          |      |      | Bending   | Bend   | Grain  | Ovalized   | Pressure/Forced   |             |              |              |
|                |                          |      |      | Centre Not Concentric to O/S  | BOM/Route  | Hardware   | Over/Under tolerance   | Temperature/Cure  |             |              |              |
|                |                          |      |      | Cracks  | Broken/Damaged   | Inspection Incomplete  | Part Incorrect   | Weld  |             |              |              |
|                |                          |      |      | Crushed/Crimped.  | Burrs  | Instructions Incomplete/Unclear  | Part Lost/Missing  | Wrong Stock Pulled  |             |              |              |
|                |                          |      |      | Cuffs   | Contamination  | Maintenance  | Part Moved   |   |             |              |              |
|                |                          |      |      | Heat Treat  | Countersink  | Mislabeled   | Positioned Wrong   |   |             |              |              |
|                |                          |      |      | Inspection Strip in Tube  | Cut Too Short  | Misread  | Power Loss/Surge   |   |             |              |              |
|                |                          |      |      | Ripples in Bend   | Drill Holes  | Offset   |  |   |             |              |              |
|                |                          |      |      | Torque Waves in Extrusion   | Drawing  | Out of Calibration   |  |   |             |              |              |
|                |                          |      |      | Turning Sequence  | Finish   | Out of Sequence  |  |   |             |              |              |
|                |                          |      |      | Wave/Twist in Tube  | Folio  | Outside Dimensions   |  |   |             |              |              |
|                |                          |      |      |   |  |  |  |   |             |              |              |
|                |                          |      |      |   |  |  |  |   |             |              |              |

Work Order ID 93658

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\*93658\*

Page 2

Item ID: D3873-1

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Bushing

Stop

\*NS2\*

Start Date: 21/11/2012 Start Qty: 400.00

\*400\*

Cust Item ID:

Required Date: 20/12/2012 Req'd Qty: 400.00

\*400\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

120

\*120\*

QC

Quality Control

Operation  
Description

QC8- Inspect parts - second check

Set Up/  
Run Hours

0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

4/4

0

DAS  
13  
9-89

130

Identify as per dwg & Stock Location

Sides

0.00

\*130\*

Packaging

Packaging

Memo

0.00

4/4

SD  
13-2-14.

140

QC21- Final Inspection - Work Order Release

0.00

\*140\*

QC

Quality Control

Memo

0.00

13/2/14 MF

13-2-14

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

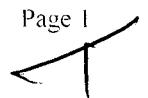
DQA: Date:

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| Work Order: _____  |      |      | DISPOSITION   |  |  | AGAINST DEPARTMENT/PROCESS   |   |              |              |  |  |
|--|------|------|---|--|--|--|---|--------------|--------------|--|--|
|  |      |      | Rework<br><input type="checkbox"/><br>Scrap<br><input type="checkbox"/><br>Use-as-is<br><input type="checkbox"/><br>Work Order Update<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/><br>Machining<br><input type="checkbox"/><br>Thermoforming<br><input type="checkbox"/><br>Large Fab<br><input type="checkbox"/>   | Crosstube<br><input type="checkbox"/><br>Small Fab<br><input type="checkbox"/><br>Finishing<br><input type="checkbox"/><br>Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/><br>Prod. Eng. Coor.<br><input type="checkbox"/><br>Rec/Store/Packaging<br><input type="checkbox"/><br>Supplier<br><input type="checkbox"/> | Engineering<br><input type="checkbox"/><br>Quality<br><input type="checkbox"/><br>Other<br><input type="checkbox"/> |              |              |  |  |
| Part No. _____   |      |      |   |  |  |  |   |              |              |  |  |
| NCR No. _____  |      |      |   |  |  |  |   |              |              |  |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or Non-conformance  | Initial Chief Eng  | Action Description   | Sign & Date   | Verification | QC Inspector |  |  |
| Doc/Data   |      |      |   |  |  |  |   |              |              |  |  |
| Equip/Tooling  |      |      |   |  |  |  |   |              |              |  |  |
| Operator   |      |      |   |  |  |  |   |              |              |  |  |
| Material   |      |      |   |  |  |  |   |              |              |  |  |
| Setup  |      |      |   |  |  |  |   |              |              |  |  |
| Other  |      |      |   |  |  |  |   |              |              |  |  |
| Process  |      |      |   |  |  |  |   |              |              |  |  |
| Supplier   |      |      |   |  |  |  |   |              |              |  |  |
| Training   |      |      |   |  |  |  |   |              |              |  |  |
| Unapproved   |      |      |   |  |  |  |   |              |              |  |  |
| FAULT CATEGORY   |      |      |   |  |  |  |   |              |              |  |  |
| Landing Gear   |      |      |   | General  |  |  |   |              |              |  |  |
| Bending<br>Centre Not Concentric to O/S<br>Cracks<br>Crushed/Crimped.<br>Cuffs<br>Heat Treat<br>Inspection Strip in Tube<br>Ripples in Bend<br>Torque Waves in Extrusion<br>Turning Sequence<br>Wave/Twist in Tube |      |      |   | Bend<br><input type="checkbox"/><br>BOM/Route<br><input type="checkbox"/><br>Broken/Damaged<br><input type="checkbox"/><br>Burrs<br><input type="checkbox"/><br>Contamination<br><input type="checkbox"/><br>Countersink<br><input type="checkbox"/><br>Cut Too Short<br><input type="checkbox"/><br>Drill Holes<br><input type="checkbox"/><br>Drawing<br><input type="checkbox"/><br>Finish<br><input type="checkbox"/><br>Folio<br><input type="checkbox"/><br>Grain<br><input type="checkbox"/><br>Hardware<br><input type="checkbox"/><br>Inspection Incomplete<br><input type="checkbox"/><br>Instructions Incomplete/Unclear<br><input type="checkbox"/><br>Maintenance<br><input type="checkbox"/><br>Mislabeled<br><input type="checkbox"/><br>Misread<br><input type="checkbox"/><br>Offset<br><input type="checkbox"/><br>Out of Calibration<br><input type="checkbox"/><br>Out of Sequence<br><input type="checkbox"/><br>Outside Dimensions<br><input type="checkbox"/> |  |  |   |              |              |  |  |
|  |      |      |   | Ovalized<br><input type="checkbox"/><br>Over/Under tolerance<br><input type="checkbox"/><br>Part Incorrect<br><input type="checkbox"/><br>Part Lost/Missing<br><input type="checkbox"/><br>Part Moved<br><input type="checkbox"/><br>Positioned Wrong<br><input type="checkbox"/><br>Power Loss/Surge<br><input type="checkbox"/>  |  |  |   |              |              |  |  |
|  |      |      |   | Pressure/Forced<br><input type="checkbox"/><br>Temperature/Cure<br><input type="checkbox"/><br>Weld<br><input type="checkbox"/><br>Wrong Stock Pulled<br><input type="checkbox"/>  |  |  |   |              |              |  |  |
|  |      |      |   | Other<br><input type="checkbox"/>  |  |  |   |              |              |  |  |

# Picklist Print

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Page 1  


Work Order ID: 93658

\*93658\*

Parent Item: D3873-1

\*D3873-1\*

Parent Item Name: Bushing

Start Date: 21/11/2012

Required Date: 20/12/2012

Start Qty: 400.00

Required Qty: 400.00

## Comments:

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M303R0.625                      |                        | Purchased     |             | No                  |                  | 100             | f                  | 217.7982       | 0.06        | 25.26316     |               |                |        |

\*M303R0 625\*

303 Round Bar 0.625"

\*\*

| Location | Loc Qty   | Loc Code |
|----------|-----------|----------|
| MAT028   | 217.79821 |          |
| 118400   | 2         |          |
| 119009   | 59.79821  |          |
| 119766   | 156       |          |
| 124081   |           |          |

13.625

BL 13.02.12

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|                   |                   |       |           |                            |           |                     |             |  |
|-------------------|-------------------|-------|-----------|----------------------------|-----------|---------------------|-------------|--|
| Work Order: _____ | DISPOSITION       |       |           | AGAINST DEPARTMENT/PROCESS |           |                     |             |  |
| Part No. _____    | Rework            | Scrap | Use-as-is | Skid-tube                  | Crosstube | Water Jet           | Engineering |  |
| NCR No. _____     | Work Order Update |       |           | Machining                  | Small Fab | Prod. Eng. Coor.    | Quality     |  |
|                   |                   |       |           | Thermforming               | Finishing | Rec/Store/Packaging | Other       |  |
|                   |                   |       |           | Large Fab                  | Composite | Supplier            |             |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

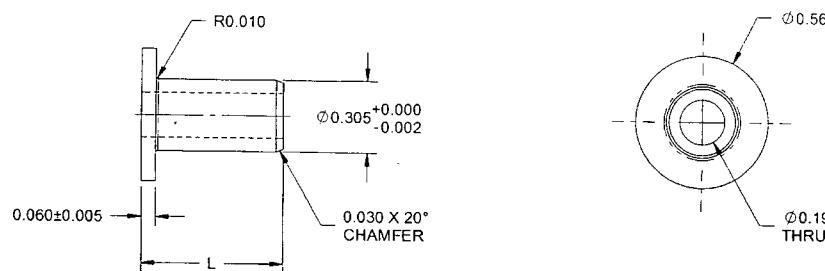
| FAULT CATEGORY               |                |                                 |                      |                    |       |          |                 |  |  |
|------------------------------|----------------|---------------------------------|----------------------|--------------------|-------|----------|-----------------|--|--|
| Landing Gear                 |                |                                 | General              |                    |       |          |                 |  |  |
|                              |                |                                 | Bending              | Bend               | Grain | Ovalized | Pressure/Forced |  |  |
| Centre Not Concentric to O/S | BOM/Route      | Hardware                        | Over/Under tolerance | Temperature/Cure   |       |          |                 |  |  |
| Cracks                       | Broken/Damaged | Inspection Incomplete           | Part Incorrect       | Weld               |       |          |                 |  |  |
| Crushed/Crimped.             | Burrs          | Instructions Incomplete/Unclear | Part Lost/Missing    | Wrong Stock Pulled |       |          |                 |  |  |
| Cuffs                        | Contamination  | Maintenance                     | Part Moved           |                    |       |          |                 |  |  |
| Heat Treat                   | Countersink    | Mislabeled                      | Positioned Wrong     |                    |       |          |                 |  |  |
| Inspection Strip in Tube     | Cut Too Short  | Misread                         | Power Loss/Surge     |                    |       |          |                 |  |  |
| Ripples in Bend              | Drill Holes    | Offset                          |                      | Other              |       |          |                 |  |  |
| Torque Waves in Extrusion    | Drawing        | Out of Calibration              |                      |                    |       |          |                 |  |  |
| Turning Sequence             | Finish         | Out of Sequence                 |                      |                    |       |          |                 |  |  |
| Wave/Twist in Tube           | Folio          | Outside Dimensions              |                      |                    |       |          |                 |  |  |

|                       |              |             |
|-----------------------|--------------|-------------|
| DART AEROSPACE LTD    | Work Order:  | 93658       |
| Description: Bushing  | Part Number: | D3873-1     |
| Inspection Dwg: D3873 | Rev: C       | Page 1 of 1 |

# FIRST ARTICLE INSPECTION CHECKLIST

|              |           |             |                      |                       |       |
|--------------|-----------|-------------|----------------------|-----------------------|-------|
| Measured by: | <i>SS</i> | Audited by: | <i>DA 60<br/>8/3</i> | Preliminary Approval: |       |
| Date:        | 13-02-11  | Date:       | 13-2-13              |                       | Date: |

| Rev | Date     | Change                           | Revised by | Approved |
|-----|----------|----------------------------------|------------|----------|
| A   | 09.05.20 | New Issue                        | KJ         |          |
| B   | 10.11.05 | Dimensions updated per Dwg Rev B | KJ         |          |
| C   | 12.02.01 | Dwg Rev updated                  | KJ         |          |



**D3873-X BUSHING**

**C**

| DART P/N | L     | WEIGHT (lbs) |
|----------|-------|--------------|
| D3873-1  | 0.600 | 0.010        |
| D3873-3  | 0.120 | 0.005        |
| D3873-5  | 0.270 | 0.007        |

**NOTES:**

- 1) MATERIAL: AISI 303 STAINLESS STEEL ROUND BAR PER ASTM A582  
REF DART SPEC M303R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: PER TABLE

8 7 6 5 4 3 2 1

SI 5 COPY  
RETURN TO  
INCH. ORING  
**UNCONTROLLED COPY**

SUBJECT: AMENDMENT

WITHOUT NOTICE

WORK ORDER

**93658 MLJ**

**12-11-22**

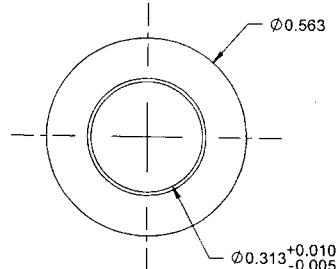
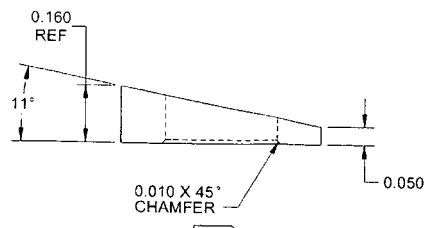
**RELEASED**

2011-09-12

**MP**

|            |   |   |              |          |
|------------|---|---|--------------|----------|
| C          | ADD D3873-3/-5/-7 (ZN B6-1 & B5-2)          |   | RF           | 11.06.14 |
| 8          | Ø0.563 WAS Ø0.63 (C3-1, TO FIT TRIBAG GIRT) |   | CP           | 10.07.22 |
| A          | NEW ISSUE                                   |   | MB           | 09.01.07 |
| REV.       | DESCRIPTION                                 |   | BY           | DATE     |
| DESIGN     | CP  | <b>DART AEROSPACE USA, INC.</b><br>PORT HADLOCK, WA   |              |          |
| DRAWN      | SC  |   |              |          |
| CHECKED    | <i>MP</i>                                   | DRAWING NO.   | REV. C       |          |
| MFG. APPR. | <i>MP</i>                                   | D3873   | SHEET 1 OF 2 |          |
| APPROVED   | <i>MP</i>                                   | TITLE   | SCALE        |          |
| DE APPR.   | <i>MP</i>                                   | BUSHING   | NTS          |          |
| DATE       | 11.06.14                                    | COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE USA, INC. |              |          |

93650



△ D3873-7 SPACER

RELEASED  
2011-09-12  
AN

NOTES:

- 1) MATERIAL: AISI 303 STAINLESS STEEL ROUND BAR PER ASTM A582  
REF DART SPEC M303R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.005 lbs
- 8) IT IS ACCEPTABLE TO BE DEBURR

8 7 1 6 1 5 1 4 1 3 1 2 1

| DESIGN     | RF       | DART AEROSPACE USA, INC.                    |              |
|------------|----------|---|--------------|
| DRAWN      | RF       | PORT HADLOCK, WA                            |              |
| CHECKED    | #        | DRAWING NO.                                 | REV. C       |
|            |          | D3873                                       | SHEET 2 OF 2 |
| MFG. APPR. | #        |   |              |
| APPROVED   | #        | TITLE                                       | SCALE        |
| DE APPR.   | #        | BUSHING                                     | NTS          |
| DATE       | 11.06.14 | COPRIGHT © 2009 BY DART AEROSPACE USA, INC. |              |

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